

THE UNIVERSITY OF CHICAGO

An image processing apparatus for acquiring a monochromatic image of high resolution within a short time by using the pixel shift method for a color imaging device. The apparatus comprises an imaging optical system, a color imaging device including a plurality of sets of four filters two of which are used for a single color selected from the three primary colors for generating pixel data for each color, a shift drive unit for shifting the imaging optical system and the color imaging device relatively to each other by a length corresponding to a predetermined number of pixels in the imaging surface, and an image synthesizing unit, the color imaging device being arranged on the imaging surface of the imaging optical system. The image synthesizing unit generates one monochromatic image only from the pixel data of the same color in different relative positions before and after the shift.